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THE WORLD'S SHORTEST GOAL SETTING STUDY. (U)

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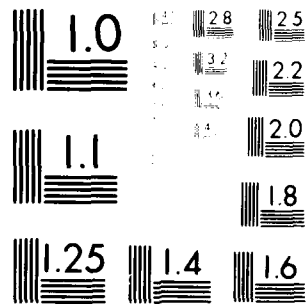
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far beyond the subjects' capacity. It was found that at impossible goal levels, goals were not related to performance. For goal levels reasonably close to the subjects' ability, goal level and performance were linearly related. Thus the overall relationship was curvilinear.

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The World's Shortest Goal Setting Study<sup>1</sup>

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## The World's Shortest Goal Setting Study

### Abstract

A one minute goal setting study replicated most of the basic phenomena of goal setting: success was related to satisfaction; goal level was negatively related to expectancy; expectancy was positively related to goal acceptance; expectancy and goal acceptance were not related to performance when goal level was controlled. Goal level was significantly related to performance for the sample as a whole. A unique feature of the present study was the use of 14 different goal levels including levels far beyond the subjects' capacity. It was found that at impossible goal levels, goals were not related to performance. For goal levels reasonably close to the subjects' ability, goal level and performance were linearly related. Thus the overall relationship was curvilinear.

## The World's Shortest Goal Setting Study

The longest successful goal setting study reported in the literature is that by Latham and Baldes (1975) which has remained successful for over 7 years (see Latham and Locke, 1979, Table 1, footnote b). Other field treatments have lasted up to 9 months (e.g., Ivancevich, 1976). Laboratory studies of goal setting, in contrast, are much shorter, typically ranging from 10 or 20 minutes to 2 hours. Regardless of the length of the study the results have been highly consistent across both field and laboratory settings (Locke, Shaw, Saari, and Latham, in press).

The present study demonstrates that the basic phenomena shown in previous goal setting studies can be obtained in a study lasting only 1 minute. The present study also included the widest range of goal difficulty yet studied (14 goal levels). This made it possible to examine the effects of "impossible" goals on performance and goal acceptance. Based on previous findings, the following predictions were made:

- H-1: There will be a positive relationship between success in reaching the goal and satisfaction with performance (Locke, 1966, 1967a).
- H-2: There will be a negative relationship between goal level and expectancy (and between goal level and objective probability of success; Locke, 1968).
- H-3: There will be a positive relationship between expectancy and goal acceptance (Mento, Cartledge & Locke, 1980).

H-4: There will be a positive relationship between valence (value of attaining the goal) and goal acceptance (Mento et al, 1980).

H-5: There will be no (non-spurious) relationship between expectancy, valence or any combination thereof and task performance (Mento et al, 1980).

H-6: Goal acceptance will not be related to performance (based on previous negative findings summarized in Locke et al, in press).

H-7: There will be a linear relationship between goal level (i.e., goal difficulty) and performance within the range of the subjects' abilities (Locke, 1968, 1967b).

Thus far no laboratory study has looked at the effect of assigning goals which are far beyond the range of the subjects' abilities. Based on logic it was predicted that:

H-8: There will be no relationship between goal level and performance once the goal exceeds the capacity of all subjects. Combining H-7 and H-8, over the total range of goals used, a curvilinear relationship between goal level and performance was predicted.

#### Method

Subjects. The subjects were 247 members of an Introductory Psychology class. The experiment was run at a beginning of the weekly discussion sections. All students in each section were assigned the same goals; thus each section constituted a goal condition. Goals were assigned to sections at random.

Task. The task was brainstorming; specifically students were asked to give uses for common objects (ignoring quality etc.). All subjects were first given a 1-minute practice trial during which they were asked to list as many uses as they could for a rubber tire. On the experimental trial, subjects were asked to list all the uses they could think of for a wire coat hanger in 1-minute. A subject's score on the practice trial, which was used as a measure of ability, and on the experimental trial was the total number of uses given without regard to quality. (The answer sheets were checked for totally irrelevant responses.)

Goals. There were 14 assigned goal levels ranging by 2's from 2 to 28. The N's varied from goal to goal due to the size of and attendance at discussion sections: 2(N=30); 4(N=8); 6(N=9); 8(N=22); 10(N=17); 12(N=19); 14(N=23); 16(N=20); 18(N=12); 20(N=26); 22(N=17); 24(N=10); 26(N=23); 28(N=11).

Procedure. After the practice trial, students were assigned their goal for the experimental trial. They wrote this number at the top of the page and circled it on their numbered answer sheet in order to allow clear feedback regarding progress in relation to the goal. Then they indicated their expectancy of reaching the goal on a 0 to 10 scale and the valence of reaching the goal on a 0 to 10 scale. The object for the experimental trial was then announced and the subjects worked for one minute. Finally they filled out a three item post-experimental goal

questionnaire. The first item measured degree of goal acceptance on a 3 point scale (tried to reach the goal; could not reach goal but tried to get close; ignored or rejected assigned goal). The second item asked what goal was set if they had rejected the assigned goal. The third item asked for a rating of satisfaction with performance on a 7 point scale. All subjects who failed to complete any item (including the expectancy and valence items) were removed from the analysis.

### Results

The correlations among the variables are shown in Table 1.

#### H-1: Success and Satisfaction

The point bi-serial correlation between success in reaching the goal and satisfaction with performance was .38 ( $p < .001$ ) Among those who failed to reach their goal, those who beat their practice trial scores were marginally more satisfied than those who failed to beat their practice trial scores ( $t = 1.66, 202 \text{ d.f.}, p < .10$ .) This suggests that subjects with hard or impossible goals may have used, to a degree, their practice trial scores as substitute or additional standards for judging their performance.

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Table 1 Here

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## H-2: Goal Level and Expectancy

Goal level correlated  $-.61$  ( $p < .001$ ) with expectancy of success, and  $-.68$  ( $p < .001$ ) with objective probability of success. Figure 1 shows the relation between goal level and: expectancy, objective probability of success, and valence. It is evident that the expectancy ratings were much more optimistic than the facts warranted at hard goal levels. Expectancy correlated  $.58$  ( $p < .001$ ) with objective probability of success. Valence showed no relationship to goal level ( $r = -.03, ns$ ).

Figure 1 here

## H-3: Expectancy and Goal Acceptance

Expectancy correlated  $.41$  ( $p < .001$ ) with goal acceptance.

## H-4: Valence and Goal Acceptance

Valence correlated  $.15$  ( $p < .01$ ) with goal acceptance. The product of E and V (ExV) was also related to goal acceptance. ( $r = .31, p < .001$ ). In a stepwise regression analysis, entering expectancy, valence and ExV, only the effect of expectancy was significant ( $F = 15.5, d.f. 1, 243, p < .001$ ). However, when goal level was entered into the equation, it explained additional variance in goal acceptance ( $F = 22.7, d.f. 1, 242, p < .001$ ) and reduced the variance explained by expectancy to borderline significance ( $F = 3.7, d.f. 1, 242, p < .10$ ).

## H-5: Expectancy, Valence and Performance

Expectancy correlated  $-.19$  ( $p < .01$ ) with performance. In a stepwise regression, when expectancy was entered after controlling

for practice score (ability), the  $F$  was 29.5(d.f.1,244, $p < .001$ ). When valence and ExV were entered as well, the effect of expectancy remained significant, but this effect disappeared when goal level was entered. Thus expectancy was initially significant only because of its (negative) association with goal level.

While the overall relation between expectancy and performance was negative, there was a slight curvilinear relationship caused by low average performance among the 11 subjects with expectancies of 0 and .10 ( $\eta^2 = .33, F = 2.14, d.f., 9, 236, p < .05$  for difference from  $r$ ). This can be accounted for by the low ability of these subjects ( $\bar{x} = 4.2$  as compared to 5.7 for the entire sample).

#### H-6: Goal Acceptance and Performance

There was a negative correlation between goal acceptance and performance ( $r = -.13, p < .05$ ), but in a regression analysis there was no effect of goal acceptance on performance after entering ability and goal level.

#### H-7, H-8: Goals and Performance

The overall correlation between goal level and performance was .48 ( $p < .001$ ). In a regression analysis, the goal level effect was highly significant even after controlling for ability, expectancy, valence and ExV ( $F = 51.4, d.f. 1, 241, p < .001$ ).

As shown by Figure 2, the relation between goal level and performance was non-linear ( $\eta^2 = .61, F = 4.4, d.f. 12, 233, p < .001$  for difference from  $r$ ). In Figure 2 the data for the higher goal levels have been grouped in order to smooth the curves. For goal levels 2 through 10 (10 was the highest goal any subject reached) the Pearson  $r$  between goal level and performance was .82( $p < .001$ ), while for goal levels 12-28, the corresponding  $r$  was .11(ns). Regression analyses within each of these goal ranges

supported the significant effects of goal level (controlling for ability) in the former group and its non-significant effect in the latter group.

Figure 2 here

A regression analysis on the subjects with goal levels 2-10 showed that only the ability and goal effects were significant when ability, goal level, expectancy, valence and  $V \times E$  were entered in the equation. The  $R$  for ability plus goal level was .85 ( $R^2 = .72, p < .001$ ).

Discussion

This 1 minute study replicated most of the basic phenomena of goal setting. These results testify to the extraordinary robustness of the technique of goal setting (Locke et al, in press). It might be argued that the correlation between goal level and performance is somewhat spurious in that subjects with very easy goals (e.g., 2 and 4) were told to stop working when they attained their goals. However, this procedure was necessary because subjects who have very easy goals typically set new goals if their assigned goals are attained too easily (Locke et al, in press). The result is that they are no longer genuine easy goal subjects. Furthermore, having subjects stop when they reach their targets simulates restriction of output, a common and long-recognized organizational phenomenon.

To determine the effects of goal level just among subjects with

high goals, the mean performance of subjects assigned a goal of 6 (which was higher than the mean ability score of the total sample of 5.7) was compared with the mean performance of those with goals from 8 through 28. The mean of the latter group was significantly higher than that of the former ( $F=3.91, d.f.1, 207, p<.05$ ).

This was the first laboratory study to deliberately assign impossible goals. No subject in goal groups 12 and above reached the assigned goal. Although increasing goal difficulty led to a decrease in goal acceptance, this involved mainly a shift from "tried to reach the goal" to "tried to get close". In no group did more than 19% of the subjects claim they were trying for a totally different goal and the percentage was not significantly higher for those with impossible goals as compared to those with reachable goals. When a substitute goal was set, it was typically to try to "do my best" -- a relatively high, though non-quantitative goal. As noted in Figure 2, the result was flat rather than declining performance as goals became more and more impossible. This indicates that impossible goals do not necessarily lead to markedly lower performance, providing that most subjects are still trying to get as close as they can to the goal and the rest are trying to do their best.

Goal acceptance in this study was, of course, greatly facilitated by the fact that the study lasted only 1 minute. Different results might well be obtained in a longer range experiment.

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Table 1  
(Pearson) Correlations Among Variables<sup>a</sup>  
 (N = 247)

	<u>Goal Level</u>	<u>Exp.</u>	<u>Val.</u>	<u>ExV</u>	<u>Perf.</u>	<u>Goal Acc.</u>	<u>Satisf.</u>	<u>Objective Success</u>
Ability	-.03	.30	.18	.30	.34	.19	.19	.16
Goal Level	-	-.61	-.03	-.35	.48	-.45	-.37	-.68
Expectancy		-	.22	.69	-.19	.41	.31	.58
Valence			-	.78	.09	.15	.10	.04
ExV				-	-.06	.31	.25	.35
Performance					-	-.13	.03	-.47
Goal Acceptance						-	.16	.39
Satisfaction							-	.38

<sup>a</sup> an r of .125 is significant of  $p < .05$

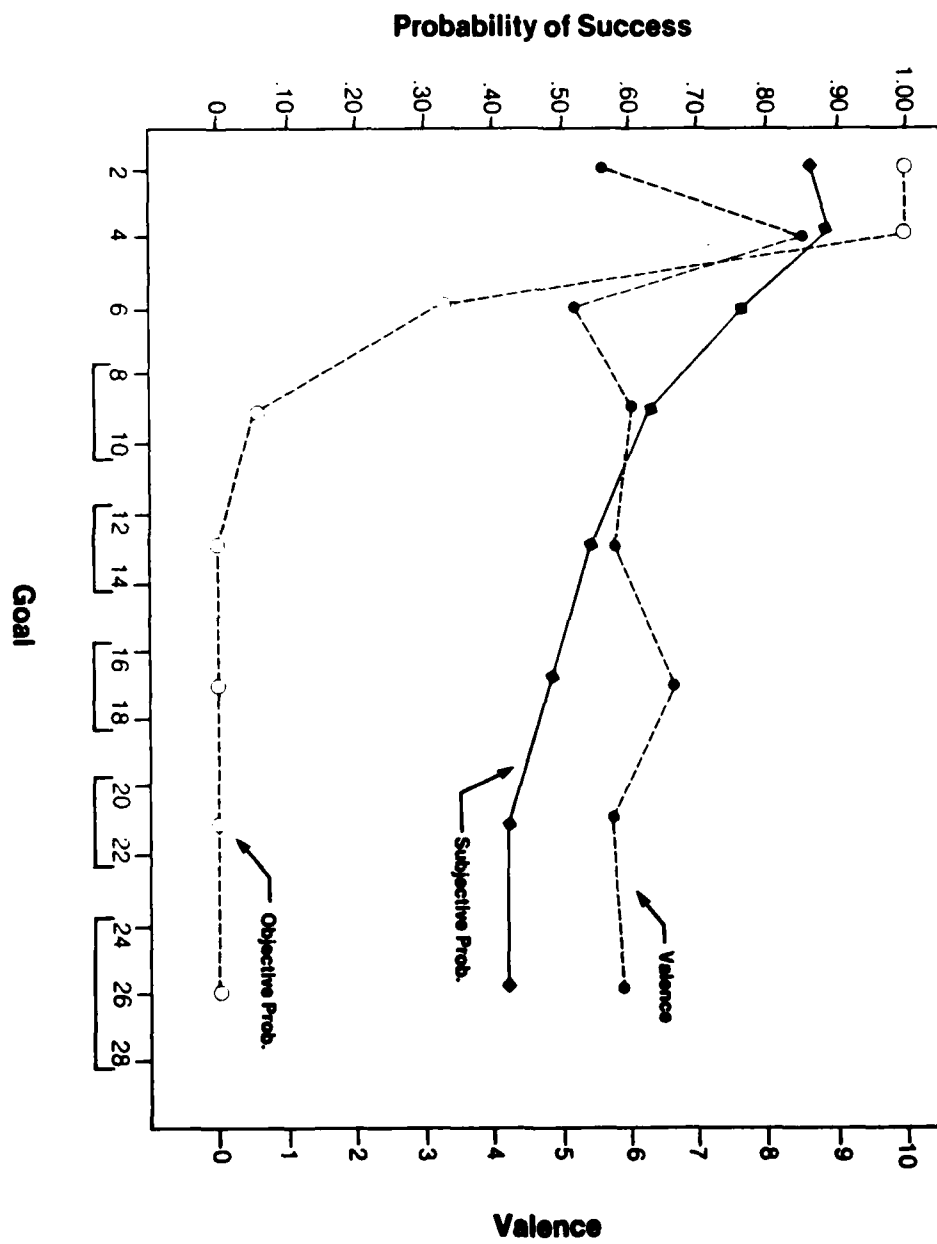
an r of .164 is significant of  $p < .01$

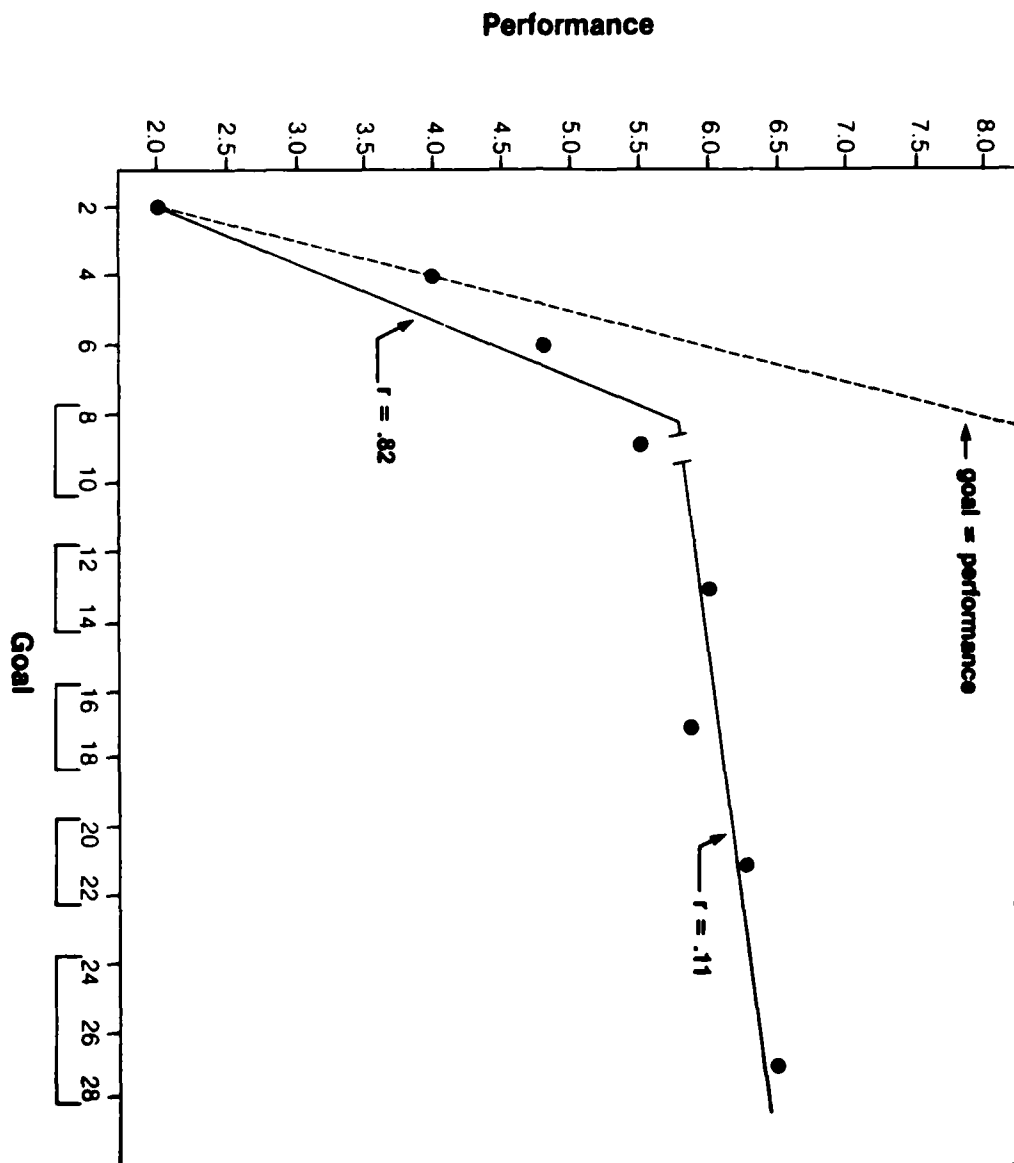
Figure Captions

Figure 1 :Relation of Goal Level to Expectancy, Objective  
Probability of Success and Valence

Figure 2 :Relation of Goal Level to Performance

Fig 1





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